CHAPTER 3

HEALTH STATUS AND HEALTH CARE PRACTICES

3.1 INTRODUCTION

The aging of the population will have profound implications on the health care system in general and geriatric care in particular. The shift towards an older age structure affects not only the total requirement for health services, but the type of health services as well. An increase in the number and proportion of elderly in the population will lead to an escalation of medical expenditure, and the increasing burden of health care financing for the elderly may very well shift from the public to the individual families (Cheung and Emmanuel, 1992). Health care therefore becomes a major issue of concern not only for the elderly themselves, but also for the family and the society at large.

The World Health Organization (WHO) has defined 'health' as a state of **complete physical, mental and social well-being** (WHO, 1980: 37). This concept of health is, however, difficult to achieve even by persons in the prime of life, not to mention the elderly. Be that as it may, a measure of general health status (good, fair, poor) as perceived by the respondents themselves has commonly been used to provide an indication of the actual health status and utilization of health services (Fillenbaum, 1984).

Information on health condition and costs of health care of elderly is obtained from a battery of questions in the Second Malaysian Family Life Survey (MFLS-II). Health status is based on the respondents own rating of whether it is 'good', 'fair' or 'poor'. It is also based on whether they are able to perform certain physical activities and whether such activities were limited by their health, and if so, for how long. Utilization of the various types of medical services is based on retrospective data of use during the past month preceding the interview, and medical cost is indicated by actual medical expenses incurred during the reference month. Information is also available on the sources of financial support when the elderly are sick.

3.2 HEALTH STATUS OF THE ELDERLY

A stereo-typical elderly is often portrayed as being frail and dependent. However, contrary to this belief, many elderly maintain their physical, mental and social functions until fairly old ages.

3.2.1 Perceived Health Status

Based on the respondents' perception of their own health status, it is found that 44 per cent consider their own health as 'good' and another 46 per cent 'fair'. This means that only some 10 per cent of the respondents in this sample perceive themselves to be in poor health (Table 3.1).

Despite such a high overall positive assessment of health status of the elderly and being well aware that such assessments are relative, a comparison is made across age groups (Table 3.1). Consistent with expectation, the proportion of elderly who perceive themselves to be in good health declines with age: from 58 per cent of those aged 50-54 to 26 per cent of those aged 75-79.

Table 3.1 Percentage Distribution of Health Status of Male and Female Elderly by Age Group

	Male					Female					Both Sexes				
	Good	Fair	Poor	Total		Good	Fair	Poor	Total		Good	Fair	Poor	Total	
				(%)	(n)				(%)	(n)				(%)	(n)
All	49.0	40.8	10.3	100	649	39.7	51.8	8.5	100	659	44.3	46.3	9.4	100	1308
Age Group															
50-54	61.7	32.4	5.9	100	190	55.1	42.2	2.7	100	183	58.4	37.2	4.3	100	373
55-59	51.7	42.6	5.7	100	164	43.7	48.8	7.5	100	208	47.2	46.1	6.7	100	373
60-64	51.5	44.5	3.9	100	103	31.9	61.2	6.9	100	113	41.3	53.2	5.5	100	216
65-69	33.3	52.4	14.3	100	80	28.6	52.9	18.6	100	71	31.0	52.6	16.3	100	152
70-74	31.3	39.3	29.5	100	55	17.7	65.9	16.3	100	51	24.8	52.0	23.2	100	106
75-79	33.2	41.9	24.9	100	56	14.6	67.2	18.1	100	33	26.3	51.3	22.4	100	89

n = number of cases.

While male respondents are relatively more likely than female respondents to report themselves to be in good health, they are also more likely to report themselves to be in poor health. Hence the compounding of these two extreme categories complicates the comparison of health status between the sexes. An index score based on their perceived health status is therefore created to provide a single measure of comparison. A score of '2' is given if the respondent perceived himself/herself to be in good health, '1' for fair and '0' for poor. Hence, an average index score that is close to zero indicates

that the elderly in the group generally have poor health status while a score close to '2' indicates good health status. Based on the average index score, it appears that the males generally perceive themselves in a better health position than females (Table 3.2). Age standardizing again reveals the superior health position of the males relative to the females ($P < 0.05$).

Background variables such as marital status, education and place of residence may also affect a person's health status. Marital status may affect an elderly's life style and responsibilities and contribute positively or negatively to good health status. Higher education may result in improved health status due to better access to nutrition, health care services and medical knowledge. These same factors may contribute to a better health status of the elderly in the urban than the rural areas. The results show that the above relationships are generally true, with currently married elderly being more healthy than those without a spouse. Better educated elderly also tend to have better health status than those with little or no schooling. However, there is hardly any difference in health status between urban and rural elderly (Table 3.2). Further standardization reduces differentials across education and marital status categories and results in almost no sex differential in health status.

The health index score is highest for the Malays followed by the Chinese and lastly the Indians. These differences remain even after standardizing for background variables. Hence, it would appear that cultural differences do account for differences of perceived health status.

Table 3.2 Unadjusted and Adjusted Mean Index Score of Health Status for Elderly Aged 50-79 by Selected Background Characteristics

	Malay				Chinese				Indian				Total			
	Unadj	Adj(1)	Adj(2)	n	Unadj	Adj(1)	Adj(2)	n	Unadj	Adj(1)	Adj(2)	n	Unadj	Adj(1)	Adj(2)	n
All	1.43	1.43	1.43	587	1.32	1.32	1.32	415	1.10	1.10	1.10	313	1.32	1.32	1.32	1315
Sex																
Male	1.47	1.46	1.43	299	1.42	1.41	1.34	196	1.11	1.12	1.10	158	1.37	1.36	1.32	653
Female	1.39	1.40	1.43	288	1.23	1.24	1.29	219	1.09	1.08	1.10	155	1.27	1.26	1.30	662
Marital Status																
not married	1.26	1.35	1.35	175	1.14	1.21	1.23	157	0.98	1.07	1.07	124	1.14	1.23	1.23	456
married	1.50	1.46	1.46	412	1.43	1.39	1.36	258	1.18	1.12	1.12	189	1.41	1.37	1.35	859
Education Level																
None	1.37	1.41	1.43	307	1.16	1.19	1.21	180	1.00	1.06	1.06	127	1.22	1.27	1.27	614
Primary	1.48	1.44	1.42	255	1.39	1.37	1.34	161	1.14	1.11	1.11	151	1.36	1.32	1.32	567
Secondary+	1.64	1.56	1.54	22	1.63	1.58	1.53	60	1.29	1.18	1.18	35	1.52	1.46	1.48	117
Current Place of Residence																
Urban	1.43	1.43	1.44	128	1.36	1.35	1.33	236	1.08	1.09	1.08	138	1.30	1.30	1.31	502
Rural	1.43	1.43	1.43	459	1.26	1.27	1.28	179	1.11	1.10	1.11	175	1.32	1.32	1.31	813

(1) Adjusted for age.
(2) Adjusted for age and other variables. Other variables include sex, marital status, education level and current place of residence, as the case may be.
Note: Not married include those never married, widowed, divorced and separated.
n = number of cases

For all ethnic groups, sex differential in perceived health status is largely explained away by other background variables. Elderly who have a spouse consistently report better health status than those without a spouse, even after standardization for other background variables. The difference is significant at 5 per cent level for all ethnic groups.

The average index score of health status is found to be positively correlated with educational level for all ethnic groups. Standardizing for other background variables explains away some educational differentials but those more highly educated seem to be healthier than those with little or no schooling ($P < 0.01$). This confirms the earlier hypothesis that persons with higher education have better health status.

Urban-rural differential in the average index score of health status is found to be marginal across the three ethnic groups. Rapid economic development has reduced disparity in the standard of living and hence the health status between the urban and rural areas. Moreover, the development and spread of modern medical and public health services and good communication have resulted in rural residents having very good access to such facilities (Ministry of Finance, 1994) and this may partly explain the similarity in health status between the urban and rural areas.

The above analysis shows that individuals with different demographic and social background may differ sharply in their perceived health status during their later years. While the above index constructed from responses may be rather subjective and relative, it nevertheless provides an indication of how the elderly perceived their own well-being. Since how one perceives one's health is an essential prerequisite for achieving and maintaining the level of health, one would conclude that overall the Malaysian elderly enjoy fair to good health and are therefore capable of involving themselves in the mainstream of activities in the country.

3.2.2 Physical Health Status

The physical health status of the elderly may be determined using responses pertaining to the performance of several listed daily activities. The ability to perform the six selected daily activities ranging from light to strenuous tasks may indicate the fitness and health of elderly persons to care for themselves, to continue working and to participate actively in society.

The survey results indicate that most of the elderly respondents are able to carry out simple activities without help. In fact as many as 36 per cent reported that they are still able to carry out vigorous activities such as lifting heavy objects or doing hard work (Table 3.3). A higher percentage of males than females are able to carry out such physical work, a result probably of higher participation by males than females in such strenuous activities and tasks since their younger days. As the ability to perform some of the activities, particularly the strenuous ones, is largely influenced by age, it is necessary to remove the age effects through standardization. The results reveal that standardizing for age makes little difference in the ability to perform the listed activities between the two sexes, indicating therefore that male elderly are indeed more capable of performing strenuous tasks than female elderly.

While more than 60 per cent of the elderly are able to walk uphill or climb stairs, it is of some concern that a relatively large percentage of men and women of fairly young ages are unable to do so. Again, elderly men are less likely than elderly women

to suffer from this predicament. Age standardization does not vary the gender difference in this respect. These findings seem to suggest that apart from biological factors, differences in life style of men and women in their lifetime may have resulted in women being inflicted with such physical disability at a younger age than men. The gender difference is consistently observed in the performance of even moderate activities such as moving a table or doing house repairs, bending and stooping. While more than 80 per cent of the elderly can perform such activities, the percentage is again

Table 3.3 Per Cent of Male and Female Elderly Aged 50-79 Who are Able to Perform Different Types of Activities

	Unadjusted			Adjusted*		
Type of Activities	Male	Female	All	Male	Female	All
Vigorous Activities	43.9	27.9	35.9	44.9	27.9	35.9
Climbing Stairs/uphill	69.3	55.3	62.3	70.3	54.3	62.3
Bending/Stooping	85.4	77.4	81.4	85.4	77.4	81.4
Moderate Activities	85.3	79.3	82.3	86.3	78.3	82.3
Walking to nearby house	92.1	90.1	91.1	93.1	89.1	91.1
Self care Activities	97.9	97.9	97.9	97.9	97.9	97.9
Number of Cases (n)	649	659	1308	649	659	1308

* Adjusted for age

higher for men than women, even with standardization for age. Men also seem to be physically healthier than women as regards to walking to a nearby house and the percentage of elderly still able to do so is more than 90 per cent. There is no sex differential as regards self-care activities and the percentage able to do this is about 98

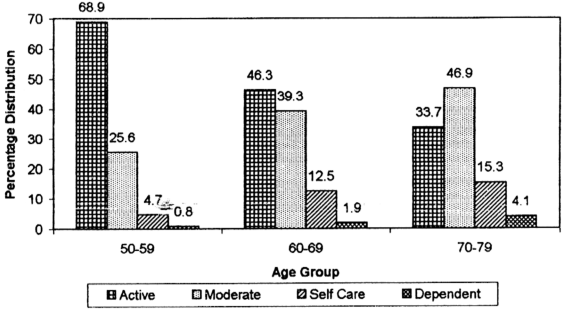
per cent. Hence, one would conclude that the percentage who are unable to care for themselves is relatively small. It is pertinent to note that while the percentage of elderly unable to care for themselves is relatively small, there should be no ground for complacency as the absolute number may be too large to cope with, in view of the rising number and percentage of elderly persons in the future. Hence, appropriate policy and programme measures should prepare for the rising number of elderly with such predicaments. Necessary steps should also be taken to monitor and delay the number of elderly becoming totally dependent.

Within the context of a caring society, it is of great interest for the community and policy-makers to evaluate the physical health status of elderly by age groups and other characteristics. In the subsequent analysis, the elderly are classified by type of activities they can perform to represent different levels of physical fitness; (i) those who are able to perform vigorous activities or climb stairs or go uphill are considered to be physically active; (ii) those who can do moderate activities or can bend or stoop are considered to be moderately active; (iii) those who can walk to a nearby house or do self-care activities only are able to take care for themselves independently, and (iv) those who need care from others and are unable to function independently.

Based on the above classification, about two-thirds of the elderly aged 50-59 and about half of those aged 60-69 are still physically active and hence most likely to be able to participate actively in all spheres of society (Figure 3.1). Even among those aged 70-79 as many as a third are still physically fit. Those elderly therefore would become a

wasted resource if they no longer participate actively in society. Hence, appropriate policy measures which utilize elderly resource should be given special emphasis, especially in areas of labour shortage, instead of relying on foreign labour.

FIGURE 3.1 Percentage Distribution of Elderly Aged 50-79 by Level of Physical Fitness by Age group

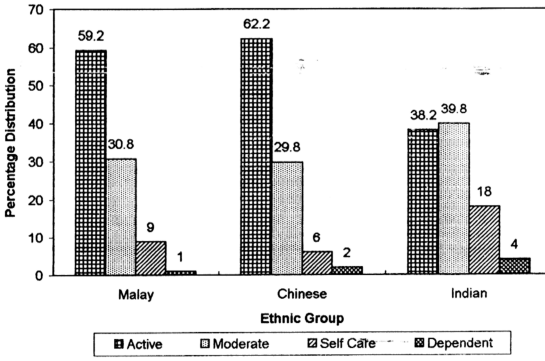


The relatively large proportion of elderly, especially those in their 50s who are moderately active or still capable of caring for themselves should also be encouraged to continue to participate towards national development, as their resources can be tapped through programmes that ensure their integration in the mainstream of society.

For the small group of elderly who are dependent on others to care for them, there is a need to ensure that physical support are forthcoming particularly from younger family members. If not, there should be community programmes to ensure that proper care is available for the elderly most in need.

Physical fitness varies across ethnic groups even after controlling for age. For example, more than half of the Malays and Chinese are still physically active, while only about a quarter of the Indians belong to this category. The percentage who can perform only self care activities or are fully incapable is highest among the Indians (Figure 3.2). The variation in the level of physical fitness across ethnic groups is largely based on their own self-evaluation of health, but the poorer health of Indians based on physical fitness is consistent with their perceived health status discussed earlier.

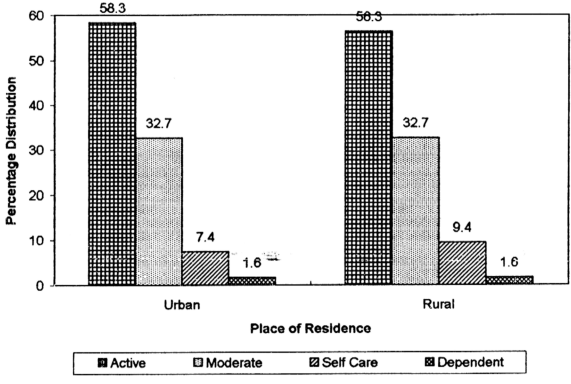
FIGURE 3.2 Age Standardized Level of Physical Fitness by Ethnic Group



With age standardization, the level of physical fitness does not seem to vary between urban and rural elderly (Figure 3.3). However, in order to meet the needs of the elderly in the rural and urban areas, trends and patterns of migration and the

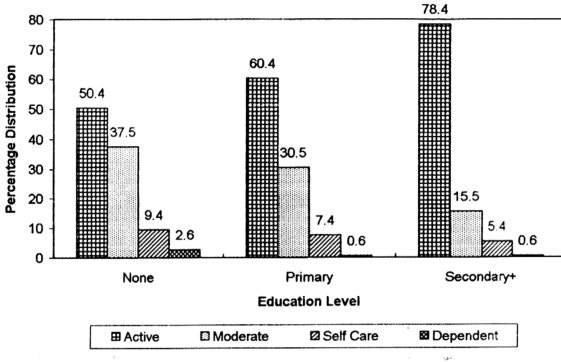
characteristics of migrants, should be considered in the formulation and implementation of any policies and programmes.

FIGURE 3.3 Age Standardized Level of Physical Fitness by Place of Residence



Educational level is positively correlated with physical fitness, even with age standardization. It is found that about 80 per cent of the highly educated group are still physically active (Figure 3.4). Therefore, it is possible to promote physical fitness through educational campaigns and other appropriate awareness programmes so that many more elderly would remain in good physical form.

FIGURE 3.4 Age Standardized Level of Physical Fitness by Education Level



3.2.3 Period of Physical Limitation

Having determined that the vast majority of the elderly are physically fit and can continue to participate in the mainstream activities of the economy and social life, it is equally important to determine the onset of physical limitation. In this way, appropriate rehabilitative measures may be identified. It is found that among those who are now not physically active, 8 per cent had stayed out of active activities less than a year ago, while about 55 per cent had done so for less than 5 years (Table 3.4). A higher percentage of those elderly cannot carry out moderate activity in the last one year and five years. This data set does not provide information on the causes of the physical limitation but proper rehabilitative programmes may help to alleviate such

limitations among some of these elderly, so that they can continue to participate in society.

Table 3.4 Per Cent of Elderly Aged 50-79 Who Are Now Not Physically Active by Duration of Limitation

Level of Physical Activities	Duration of Limitation : < 3 months	< 1 year	< 5 years	5 years+	n
Active	0.4	8.0	54.7	45.3	537
Moderate	-	12.8	60.5	39.5	109

Based on the above analysis, it may be inferred that a sizeable number and proportion of the elderly are capable of active participation in the economy and society and their resources should not be ignored. As such, policies and programmes aimed at tapping these resources should be given priority.

3.3 HEALTH PRACTICES OF THE ELDERLY

It is important to understand the health practices of the elderly so as to determine their potential as a continuing resource for the nation. Health practices of the elderly include nutrition and care when they are healthy as well as the type of care they seek and are provided when they are not well. Such health practices are affected by the elderly's socio-economic background and also the availability of family and other support. The survey data provide some insight on the type and costs of health services utilized by the elderly in the one month prior to the survey.

3.3.1 Utilization of Health Care Services

It is found that in the one month prior to the survey, 57 per cent of the elderly were well and hence did not have to seek medical care. Of the 43 per cent of the elderly who had to use a health service during this reference month, 88.3 per cent used only one type of health facility while the remainder used 2-4 types.

Data show that about the same proportion of elderly had sought private and public health care services, but the most popular seems to be private clinics. This may largely be due to the wide availability and accessibility of such clinics (Table 3.5).

Table 3.5 ***Percentage of Elderly Aged 50-79 by Type of Health Care Services Utilized in the One Month Prior to the Survey***

Source of Health Care	All
Government Hospitals & Clinics	**51.0**
General or University Hospital	17.1
District Hospital	16.7
Government Clinics	17.2
Private Hospitals & Clinics	**53.3**
Private Hospital	12.1
Private Clinic	41.2
Traditional Practitioners/Other	**9.1**
Number of Cases (n)	563

Note : About 12 per cent of elderly used more than one type of medical facility and hence the total is more than 100 per cent.
Other facilities include pharmacy and other types of health facilities.

There was a tendency by the oldest elderly to use private facilities rather than government facilities (Table 3.6). This is true for both male and female elderly.

Perhaps the long waiting period for attendance by a medical personnel often associated with public facilities has encouraged some to patronise private facilities.

Table 3.6 Percentage of Elderly Aged 50-79 Using Various Types of Health Care Services by Age Group and Sex

	Sources of Health Care			
	Government Hosp./Clinic	Private Hosp./Clinic	Traditional/ Other	n
Male				
50-59	44.0	56.7	7.7	140
60-69	60.5	47.0	5.0	85
70-79	31.4	67.3	9.4	49
Total	46.9	55.6	7.2	274
Female				
50-59	52.8	49.2	12.0	176
60-69	56.3	46.3	7.7	73
70-79	48.2	68.0	10.3	40
Total	53.0	51.1	10.7	289
Both Sexes				
50-59	48.9	52.5	10.1	316
60-69	58.6	46.7	6.2	158
70-79	38.9	67.6	9.8	89
All	50.0	53.3	9.0	563

Note: About 12 per cent of elderly used more than one type of medical facility and hence the total is more than 100 per cent.

Largely due to the wider availability of private medical facilities in urban areas, urban elderly were more likely to consult private doctors, while rural residents were more likely to consult government doctors (Table 3.7). Rural elderly were more likely than their urban counterparts to consult traditional healers when they were ill.

Table 3.7 ***Percentage of Elderly Aged 50-79 Using Various Types of Health Care Services by Age Group and Place of Residence***

	Sources of Health Care			
	Government Hospitals & Clinics	Private Hospitals & Clinics	Traditional/ Other	n
Urban				
50-59	37.1	64.2	5.2	141
60-69	46.5	49.9	3.6	64
70-79	32.6	79.1	2.3	31
Total	39.0	62.3	4.4	236
Rural				
50-59	58.4	43.2	14.1	175
60-69	66.8	44.5	8.0	94
70-79	42.3	61.4	14.0	58
Total	58.0	46.8	12.3	327

Note: About 12 per cent of elderly used more than one type of medical facility and hence the total is more than 100 per cent.

Comprehensive public health and medical care in Malaysia is easily accessible to the general population in both the rural and urban areas and the number of government and private health centers have rapidly risen (Ministry of Finance, 1994). However, geriatric care service is hardly available to deal with clinical, preventive, remedial and social aspects of illnesses of the elderly. Hence, elderly who are in need of health care services are attended to in most instances by medical personnel who are not specialised in this field.

Pronounced ethnic differences were also found in the type of health care services utilized (Table 3.8). The Chinese preference for private health facilities was quite clear

regardless of the place of residence. In contrast, the Malays were more likely to use government and traditional health providers, particularly those in the rural areas. A higher proportion of rural residents of Malay and Chinese origin preferred traditional medicines as compared to urban respondents or those of Indian origin. Overall, the Malays showed the highest percentage with preference for traditional medicine compared with the Chinese and Indians. Hence, ethnic differences in the use of health facilities may be due to inherent socio-cultural beliefs and practices and may be difficult to change in the short term from the policy and programme perspectives.

Table 3.8 Percentage of Elderly Aged 50-79 Using Various Types of Health Care Services by Place of Residence and Ethnic Group

	Sources of Health Care			
	Government Hospitals & Clinics	Private Hospitals & Clinics	Traditional/ Other	n
Urban				
Malay	51.7	48.3	8.3	60
Chinese	29.7	70.3	4.0	101
Indian	55.7	48.6	4.3	70
Rural				
Malay	65.4	41.9	12.6	191
Chinese	41.1	61.1	12.3	73
Indian	62.3	34.8	7.2	69
All				
Malay	62.2	43.4	11.6	251
Chinese	34.5	66.7	7.5	174
Indian	59.0	41.7	5.8	139

Note: About 12 per cent of elderly used more than one type of medical facility and hence the total is more than 100 per cent.

Elderly with perceived poor health status were more likely to utilize government facilities than private facilities (Table 3.9), and this may partly be due to the higher cost of private health care. Preference for traditional medicine is also inversely correlated with perceived health status; those who perceived themselves in **poor health are** more likely to seek help from traditional healers. It is not known whether the elderly resort to traditional medicine after failing to find a cure in modern medicine or such beliefs and practices had actually aggravated their health condition. The use of health care services by educational levels seems to indicate that the latter is more likely to be true since poor education is closely linked to a higher preference for traditional health care.

Table 3.9 Percentage of Elderly Aged 50-79 by Type of Health Care Services by Selected Background Characteristics

Background Characteristics	Sources of Health Care			
	Government Hospitals & Clinics	Private Hospitals & Clinics	Traditional & Other	n
All	50.0	53.3	9.0	563
Health Status				
Good	42.6	54.8	9.0	184
Fair	51.4	56.0	8.5	287
Poor	60.5	41.9	10.6	92
Education Level				
None	51.3	48.7	12.1	257
Primary	53.6	54.6	6.7	239
Secondary+	33.0	65.1	6.4	57

Note: About 12 per cent of elderly used more than one type of medical facility and hence the total is more than 100 per cent.

In light of the prevalence of traditional practices among certain segments of the population, there is a need to promote the utilization of modern health facilities through health education, especially among those living in the rural areas and those with low level of education. Rural elderly should be educated to seek appropriate medical treatment instead of relying on superstitions to treat their various illnesses. It is important at the same time to ensure that such modern health services remain accessible and affordable to the general public, especially the elderly.

3.3.2 Cost of Health Care

The cost and affordability of health care affect the extent of utilization. Some of the elderly who used health services in the reference month reported receiving free treatment but there was an elderly who paid as much as RM4,200. About 24 per cent of the elderly received free health services, a higher percentage being from the rural than the urban area (Table 3.10). Only about 11 per cent of the elderly spent more than RM40 in medical cost in the reference month, indicating that the medical cost was reasonably low. The mean expenditure was RM34 for those who used a health facility in the reference month (Table 3.11). If we exclude the elderly who visited hospital facilities, assuming that some had to pay for hospitalization, the mean medical cost reduces to RM21. The mean cost of those who visited hospital facilities was RM50.

Table 3.10 Percentage Distribution of Health Care Expenditure (During the Reference Month) of Elderly Aged 50-79 by Place of Residence

Expenditure (RM)	Urban	Rural	All
0	16.6	29.0	23.8
1-20	51.7	47.0	49.0
21-40	18.2	15.2	16.5
41-60	6.0	4.8	5.3
> 60	7.5	4.0	5.5
All (%)	100.0	100.0	100.0
(n)	228	323	551

Table 3.11 Mean Medical Expenditure (in RM During the Reference Month) of Elderly Aged 50-79 by Type of Health Facilities

Health Facilities	Urban	Rural	Total	n
All Type of Facilities	57.02	17.69	33.98	551
Without Hospital Facilities	27.37	16.46	21.03	305
Type of Health Care				
Hospitals	**94.60**	**19.19**	**49.96**	**248**
General or University Hospital	19.07	25.78	22.43	96
District Hospital	1.53	10.43	8.02	91
Private Hospital	301.84	27.39	156.13	61
Clinics	**27.79**	**16.98**	**21.69**	**275**
Government Clinic	10.46	4.33	5.62	91
Private Clinic	31.11	27.42	29.44	184
Traditional and Other	**20.71**	**12.80**	**14.87**	**28**

Medical cost is considerably higher in private than government facilities in both the urban and rural areas. The higher preference of private facilities by older elderly (as found earlier) means also increasing financial burden on this group who is least able

to afford. As health is likely to deteriorate with advancing age, older elderly are likely to incur more health care expenses (Ogawa, 1989; Knodel et al., 1992b). This has serious implications on the cost of health care as private medical facilities are expected to expand at a much faster rate than government facilities (Government of Malaysia, 1991; Ministry of Finance, 1994).

3.3.3 Financial Source of Medical Costs

The financial burden on the elderly is reflected by the high percentage of elderly who had to pay for the medical services themselves when they used the medical facility in the reference month (Table 3.12). Data show that about 9.4 per cent of the elderly

Table 3.12 Percentage Distribution of Elderly Aged 50-79 by Financial Source of Medical Cost During Illness

Source of Medical Cost	%
Self/Spouse	**68.6**
Son	**20.0**
Son in the household	14.7
Sons outside household	6.7
Daughter	**11.2**
Daughter in the household	8.1
Daughter outside household	3.1
Other	**9.6**
Relative	2.3
Employer	5.7
Non-relative	0.5
Number of Cases (n)	436

Note: About 9.4 per cent of elderly indicate more than one source of support, and hence the total is more than 100 per cent.

indicate that they had to use 2-4 sources to pay for their medical costs. For elderly who received financial support, sons' contribution was mentioned more frequently than was the case with daughters. Caregivers in the household also contributed more financial support compared with members staying elsewhere.

A higher proportion of younger respondents had to bear their own medical expense compared with their older counterparts (Table 3.13). This may be due to the fact that younger elderly are more likely to be still working and have higher economic resources (due partly to higher education, see Appendix 2). For these same reasons, male elderly were more likely to pay for their own medical expenditure compared to the female elderly. Also, due to the longer life span of females, older women are less likely to have a living spouse compared with older men.

It is interesting to note that there are ethnic differences in health care financing. Malay elderly topped the list in paying for their own medical expenses, while the Indians tended to depend more on children to pay for such care. Rural elderly were also more likely to be self-reliant when it comes to paying for their own medical expenses compared with urban elderly. This may be partly explained by the fact that Malays make up a large proportion of the rural population. In terms of place of residence, it is found that the rural Malays were more self-reliant and the urban Indians the least self-reliant in paying for their own medical cost.

Table 3.13 Financial Source of Medical Cost by Selected Background Characteristics of Elderly Aged 50-79

Background Characteristics	Source of Financial Support				
	Self/ Spouse	Sons	Daughters	Employer/ Other	Total
All	68.6	20.0	11.2	9.6	436
Age					
50-59	76.2	11.1	7.8	11.1	244
60-69	62.5	26.7	12.5	7.5	120
70-79	52.8	38.9	20.8	8.3	72
Gender					
Male	70.8	15.1	7.5	11.8	212
Female	66.5	24.1	14.3	7.6	224
Ethnic Group					
Malay	73.7	15.6	10.6	8.8	160
Chinese	62.7	23.4	12.7	10.1	158
Indian	57.1	29.5	12.4	15.2	105
Place of Residence and Ethnic Group					
Urban	60.7	22.0	12.0	14.7	191
Malay	72.5	15.0	12.5	7.5	40
Chinese	60.2	19.4	12.9	13.9	93
Indian	53.4	31.0	10.3	20.7	58
Rural	69.4	14.7	11.6	7.8	232
Malay	74.2	15.8	10.0	9.2	120
Chinese	66.2	29.2	12.3	4.6	65
Indian	61.7	27.7	14.9	8.5	47
Education Level					
None	64.8	23.5	11.7	8.2	196
Primary	74.2	18.3	12.4	5.4	186
Secondary+	62.2	11.1	6.7	31.1	45

Note: About 9.4 per cent of elderly indicate more than one source of support, and hence the total is more than 100 per cent.

The better educated group were more likely to have their medical bills paid by employers or others, while lower educated group were more likely to bear their own medical cost. In view of the above, the financial burden is likely to be much higher for certain groups of elderly and culminated with rising health costs may prove to be very difficult, if not impossible, for some to obtain adequate health care when they fall ill.

3.4 MULTIVARIATE ANALYSIS: HEALTH STATUS AND HEALTH CARE PRACTICES

3.4.1 Influences of Physical Health Status

The extent to which an elderly is still physically active is affected by a multitude of factors. A multivariate analysis is conducted to ascertain the independent and combined effects of selected background variables on the physical health status of the elderly. Since the dependent variable (ACTIVE) is dichotomous, which takes a value of '1' if the elderly is still physically active and '0' if not active, a logistic regression was used.

The explanatory variables are as follows :

AGE represents age in single years of elderly;

GENDER is a dummy variable, GENDER=1 for male and 0 for female;

CURES represents the current place of residence of elderly, CURES=1 for urban and 0 for rural;

ETHNIC since there are three ethnic groups, 2 new variables are created: ETHNICM is coded '1' if the respondent is a Malay and '0' otherwise,

ETHNICC is coded '1' if the respondent is a Chinese and '0' otherwise. The Indian group is used as the reference category;

EDU represents the education level of elderly, since there are 3 categories, 2 new variables are created, EDU1=1 if the respondent has primary education and '0' otherwise, EDU2=1 if the respondents has secondary education or more and '0' otherwise. The group with no education is used as the reference category;

HEALTH represents the health status of the elderly, taking the value of 1 if the respondent is in good or fair health and 0 if in poor health.

The logistic regression equation for the probability of being physically active is as follows:

$$\text{Prob (ACTIVE=1)} = \frac{1}{1 + e^{-Z}}$$

where

$$Z = \underset{(0.6052)}{1.7076^{*}} - \underset{(0.0087)}{0.0763\ AGE^{*}} + \underset{(0.1419)}{0.7249\ GENDER^{*}} - \underset{(0.1396)}{0.0004\ CURES}$$

$$+ \underset{(0.1673)}{0.7564\ ETHNICM^{*}} + \underset{(0.1781)}{0.8515\ ETHNICC^{*}} + \underset{(0.1466)}{0.1369\ EDU1}$$

$$+ \underset{(0.2805)}{0.9916\ EDU2^{*}} + \underset{(0.2790)}{2.1995\ HEALTH^{*}}$$

* significant at 1 per cent level
( ) standard error
n = 1315 cases

The model Chi-Square is 328.099 which is highly significant at 1 per cent level, implying that the coefficients for all the terms in the model are significantly different

from zero (Table 3.14). The Goodness of Fit statistics for the model is 1303.426 is not significant, indicating that the data fit the model well. All the explanatory variables, except for CURES and EDU1, have estimated coefficients which are statistically significant, which is consistent with earlier results.

Table 3.14 Statistics for Model Chi-Square and Goodness of Fit

	Chi-Square	df	Significance
Model Chi-Square	328.099	8	0.0000
Goodness of Fit	1303.426	1306	0.5149

The coefficients for AGE have a negative signs. This suggests that, ceteris paribus, rising age will result in an elderly becoming less physically active. GENDER has a positive coefficient that is statistically significant, meaning that by holding other variables constant, males are more likely to be physically active compared to females.

The estimated coefficients for ETHNICM and ETHNICC have positive signs, implying that, ceteris paribus, the Malays and Chinese are more likely to be physically active compared to Indians. The larger value of coefficient for ETHNICC than ETHNICM indicates that the Chinese are physically more active than the Malays with the same characteristics. Hence, the multivariate analysis confirms ethnic differences in the physical health status of the elderly.

EDU2 has a significant positive coefficient, which confirms that higher education is closely related to whether an elderly remains physically active, taking all other variables into account. Higher education may make elderly more aware of caring for their own health, hence resulting in this group being more likely to be physically active compared with those with less education.

The model also indicates a close link between perceived health status and actual physical activities. Those elderly with perceived good or fair health are more likely to be physically active compared with counterparts with perceived poor health, holding other variables in the model constant. This finding is to be expected as people with more limitations will invariably perceive themselves to be in poorer health.

Using the above logistic regression, one can estimate the probability of an elderly being physically active by various combinations of the explanatory variables. As an illustration, a Chinese male of age 60, with secondary education or higher and good health status has a probability of 87.0 per cent that he is still physically active. This probability decreases to 85.8 per cent if he is a Malay with the same characteristics and only 74.0 per cent if he is an Indian of similar characteristics. The estimated probabilities of being physically active using the above estimated logistic regression for various combinations of the significant explanatory variables are presented in Table 3.15.

Table 3.15 Estimated Probabilities of Being Physically Active by Various Characteristics of Elderly Aged 50-79

Explanatory Variables						
AGE	GENDER	ETHNIC	EDU	HEALTH	value Z	Estimated Probability
60	Male	Chinese	Secondary	Good	1.8971	0.8696
60	Male	Malay	Secondary	Good	1.8020	0.8584
60	Male	Indian	Secondary	Good	1.0456	0.7399
50	Male	Chinese	Secondary	Good	2.6601	0.9346
50	Female	Chinese	Primary	Good	1.0805	0.7466
60	Male	Malay	Primary	Good	0.9473	0.7206
60	Male	Malay	None	Good	0.8104	0.6922
65	Male	Malay	None	Poor	-1.7706	0.1455
70	Female	Indian	None	Poor	-2.9085	0.0517

3.4.2 Influences of Private Health Care Utilization

With the expected increase in the absolute number of elderly, the demand of health care services is likely to increase in both the government and private sectors. However, with rapid expansion of the private sector and also privatization of at least some of the public health facilities in the years to come, government health facilities are likely to be increasingly privatized (Wong, 1986; Government of Malaysia, 1991, 1993). In view of the increasing role of the private sector, it is important to see which group of elderly are most likely to be affected. Using the group of elderly who utilized health facilities in the reference month prior to the survey, multivariate analysis is used to identify the characteristics of elderly seeking private health care. Logistic regression is again used as the dependent variable (PRIVATE) is coded '1' if the elderly used private health facilities and coded as '0' if other health facilities are used.

Using the same explanatory variables earlier, the estimated logistic regression equation for the probability of using health facilities is as follows:

$$\text{Prob (PRIVATE=1)} = \frac{1}{1 + e^{-Z}}$$

where

$$Z = \underset{(0.8206)}{-2.3593^{***}} + \underset{(0.0119)}{0.0231\ AGE^{*}} - \underset{(0.1966)}{0.0280\ GENDER} + \underset{(0.1910)}{0.4252\ CURES^{**}}$$

$$+ \underset{(0.2324)}{0.0359\ ETHNICM} + \underset{(0.2456)}{0.8597\ ETHNICC^{**}} + \underset{(0.2100)}{0.1415\ EDU1}$$

$$+ \underset{(0.3422)}{0.0744\ EDU2} + \underset{(0.2414)}{0.5844\ HEALTH^{**}}$$

*** significant at 1 per cent level
** significant at 5 per cent level
* significant at 10 per cent level
( ) Standard error
n = 564 cases

The Model Chi-Square of 40.593 is significant at 1 per cent level which implies that all the terms in the model are significantly different from zero (Table 3.16). The Chi-Square Goodness of Fit of 564.203 is not significant at 1 per cent level indicating that the data fit the model well. The results show that all variables are significant at 10 per cent level except GENDER, ETHNICM and EDLEVL.

Table 3.16 Statistics for Model Chi-Square and Goodness of Fit

	Chi-Square	df	Significance
Model Chi-Square	40.593	8	0.0000
Goodness of Fit	564.203	555	0.3841

AGE in the model has a significant positive coefficient, indicating that older elderly are more likely to use private health facilities compared to younger elderly, controlling for other variables in the model. This is consistent with the bivariate results discussed earlier.

Current place of residence (CURES) is found to be positive in relation to the use of private health care. This implies that, ceteris paribus, urban elderly are more likely to use private health care than rural elderly. ETHNICC has a significant positive coefficient, indicating that the Chinese are more likely to make use of private health facilities than the Malays or Indians, taking into account other variables. The Malays are not significantly different from the Indians with respect to utilising private health facilities.

Health status has a significant positive coefficient, which indicates that the elderly with perceived good or fair health status are more likely to use private health facilities, controlling for other variables in the model. This may partly be explained by the higher costs of private health facilities compared with public facilities which may deter elderly with poor health since they may require many visits.

Using the estimated logistic regression equation, the probability of a respondent using private health care can be calculated for various combinations of the explanatory variables. For example, a Chinese of age 70, who is staying in an urban area and having poor health, has a probability of 63.2 per cent of using private health facilities,

as compared with 43.0 per cent for a Malay and 42.1 per cent for an Indian with the same background characteristics. Hence, it would appear that health cost and privatization are likely to affect those most in need and least able to afford.

The estimated probabilities of utilizing private health facilities by some combinations of the significant explanatory variables using the above estimated logistic regression are presented in Table 3.17.

Table 3.17 Estimated Probabilities of Utilizing Private Health Facilities by Various Characteristics of Elderly Aged 50-79

Explanatory Variables					
AGE	CURES	ETHNIC	HEALTH	value Z	Estimated Probability
50	Urban	Chinese	Good	0.6650	0.6604
60	Urban	Chinese	Good	0.8960	0.7101
60	Rural	Chinese	Good	0.4708	0.6156
60	Rural	Malay	Good	-0.3530	0.4127
60	Rural	Malay	Poor	-0.9374	0.2814
60	Rural	Indian	Poor	-0.9733	0.2742
70	Urban	Chinese	Poor	0.5426	0.6324
70	Urban	Malay	Poor	-0.2812	0.4302
70	Urban	Indian	Poor	-0.3171	0.4214

3.5 CONCLUSION

The elderly in Malaysia seems to be still fairly healthy and active and thus provide a potential human resource for the country, particularly in the light of the tight labour market. This invaluable resource should not remain untapped, particularly with the expected rise in the proportion and number of elderly. There are implications on the lifestyle when young, which seems to result in a higher proportion of females having limitations at younger ages compared with men. Programmes targeted at senior

workers and also those who have recently withdrawn from active life should be emphasized so that the elderly would remain in mainstream activities of the society. Aspects of health care and lifestyle should be promoted from young so that the elderly remain healthy for a longer period of time. With development, increasing urbanization and rising health costs and greater privatization of health services, it is appropriate that necessary provisions be in place to assist the elderly in need.